

This Page Is Inserted by IFW Operations
and is not a part of the Official Record

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

IMAGES ARE BEST AVAILABLE COPY.

**As rescanning documents *will not* correct images,
please do not report the images to the
Image Problem Mailbox.**

CLAIMS

What is claimed is:

- 5
1. An ink jet ink composition for inkjet printers comprising one or more mono- or di-hydric alcohols and one or more 1,2-diols wherein said composition is substantially free of surfactants.
 - 10 2. An ink composition according to claim 1 wherein said ink is also substantially free of other organic solvents.
 3. An ink composition according to Claim 1 wherein said ink further comprises from about 0.1 to about 20 wt % of at least one colorant in the color ink formulations
15 selected from the group comprising cyan, magenta, and yellow.
 4. An ink composition according to Claim 1 wherein said ink further comprises from about 1 to about 20 wt % of at least one black colorant in the black ink
20 formulation.
 5. An ink composition according to Claim 1 wherein said mono- or di-hydric alcohol is present in a range of from about 0.5 to about 2.0 wt % of said composition.
 6. An ink composition according to Claim 1 wherein said 1,2-diol is present in a
25 range of from about 7 to about 20 wt % of said composition.
 7. An ink composition according to Claim 1 further comprising ingredients selected from the group of buffers, biocides, metal chelators, and mixtures thereof.
 - 30 8. An ink composition according to Claim 5 wherein said mono- or di-hydric alcohol is present in a range of from about 1 to about 2.0 wt % of said composition.

BES. COPY

10015559

BEST AVAILABLE COPY

T06201" E400001

9. An ink composition according to Claim 5 wherein said alcohol is a monohydric alcohol.
- 5 10. An ink composition according to Claim 6 wherein said 1,2-diol is present in a range of from about 7 to about 11 wt % of said composition.
11. An ink composition according to Claim 10 wherein said 1,2-diol is present in a range of from about 8.5 to about 9.5 wt % of said composition.
- 10 12. An ink composition according to Claim 1 further comprising up to about 3% each by wt of ingredients selected from the group consisting of buffers, biocides, metal chelators, and mixtures thereof.
13. An ink composition according to Claim 1 wherein said alcohol is a mono- or di-
15 hydric, straight or branched chain alcohol of C5-C10 chain length.
14. An ink composition according to Claim 1 wherein said 1,2- diol comprises a 1,2- diol having a polar side and a hydrophobic side of 4 to 6 carbons.
- 20 15. An ink composition according to Claim 14 wherein said 1,2- diol is selected from the group consisting of 1,2-hexanediol, 1,2-heptanediol, 1,2-octanediol, and mixtures thereof.
16. An ink composition according to Claim 14 wherein said 1,2-diol is 1,2
25 hexanediol.
17. A method of inkjet printing comprising ejection of an ink composition onto a paper media by means of an inkjet printer, wherein
 - a) said ink composition comprises one or more mono- or di-hydric alcohols
30 and one or more 1,2-diols and wherein said composition is substantially free of surfactants; and wherein
 - b) said paper media is a glossy, coated paper media.

18. A method of inkjet printing according to Claim 17, wherein said method provides for an improved dot size resulting in a decrease in banding of the ink image on the printed media.

5

19. A method for improving the reliability of inkjet printing by reducing the frequency of nozzle outs caused by bubbles (BINO) while increasing the dot size of ejected fluid from the ink jet printer, said method comprises ejection of an ink composition onto a paper media by means of an inkjet printer, wherein

10

- a) said ink composition comprises one or more mono- or di-hydric alcohols and one or more 1,2-diols and wherein said composition is substantially free of surfactants; and wherein
- b) said paper media is a glossy, coated paper media.

BEST AVAILABLE COPY

T05201" E4000001